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Horie et al.

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(54) **EQUIPMENT AND METHOD FOR TRANSMITTING FACSIMILE SIGNAL**

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(56) **References Cited**

U.S. PATENT DOCUMENTS

4,554,669 11/1985 Deman et al. 375/1
5,159,465 * 10/1992 Maemura 358/405

5,335,085 8/1994 Nakatsuma 358/404
5,426,647 6/1995 Suto et al. 375/5.1
5,477,339 * 12/1995 Sugawara 358/406
5,654,964 * 8/1997 Wake 370/395
5,822,084 10/1998 Hwang 358/437
5,986,684 * 11/1999 Ohashi 347/194

FOREIGN PATENT DOCUMENTS

3834450 C2 * 8/1989 (DE) H04N/1/32
0660579A2 6/1995 (EP) H04N/1/327
A61-290863 12/1986 (JP) .
A2-81565 3/1990 (JP) .
A5-103001 4/1993 (JP) .
A5-136970 6/1993 (JP) .
A6-178076 6/1994 (JP) .
A7-15412 1/1995 (JP) .
A7-107255 4/1995 (JP) .
07322025 * 12/1995 (JP) H04N/1/32

OTHER PUBLICATIONS

Patent Abstracts of Japan—Abstract only—Publication No.
JP03265291—Publication Date—Nov. 26, 1991.
Shyu et al—"Detection and Correction of Transmission
Errors in Facsimile Images"—Aug. 1, 1996—
XP000624098.

* cited by examiner

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(57) **ABSTRACT**

When a frame detection signal is received which indicates
that frame data was discarded during transmission, a fac-
simile signal corresponding to the oldest one of facsimile
signals stored in a restored data storage part 30, 41 is output
to a modem 22, 33.

24 Claims, 15 Drawing Sheets

